DESTINATION IMAGE OF TAIWAN IN THE VIEW OF CHINESE TRAVEL BLOGS

INTRODUCTION

自從台灣開放大陸觀光客來台旅遊, 大陸旅客從 2007 年起, 就飛快成為台灣最主要的外國旅客. 一直到 2010 年後, 成長的力道才稍微趨緩. 為有效增加來台旅客, 台灣政府在 2011 年 6 月開放陸客來台自由行, 再創另一波陸客來台旅遊的風潮. 以 2012 年資料來看, 大陸旅客即佔總來台旅客的 36.65%. Backpackers are the new power for the growth ofinbound tourism in Taiwan.
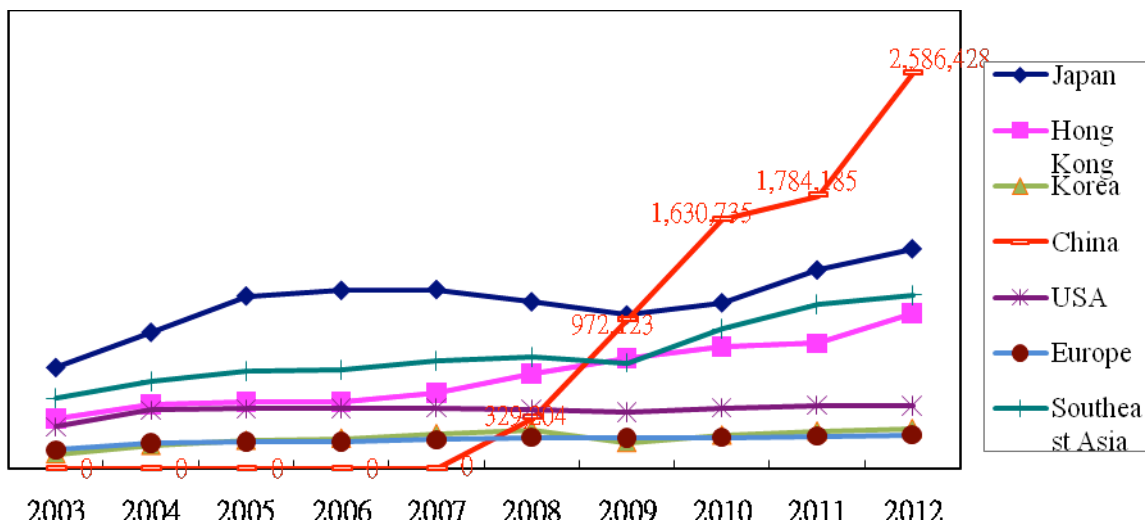

Figure 1Inbound visitor statistics

過去針對旅遊偏好的研究, 大多針對個人採用質化或量化的方式, 了解其偏好, 意見, 或對旅遊景點的認知, 意象等. 這類型的研究對於了解旅客對景點現況的評價, 進而可以提供許多改進的建議. 然而, 從行程規劃的角度來看, 旅客在規劃行程時除了考量個人興趣與景點的吸引力之外, 也會考量景點與景點之間的關係, 包括景點特質, 距離, 交通接駁與到訪時間等等因素. 尤其自助旅行者, 常花費大量的時間在評估景點與景點之間的關係, 幾經取捨才能擬定最後的旅行計畫.

本研究採社會網路分析 (social network analysis), 藉由搜集大陸自由行旅客的行程記錄, 觀察旅客在台行走的景點之順序關係, 以了解不同景點之間可能存在競爭, 互補或中繼關係. 過去對旅遊景點的研究常視景點為獨立的客體, 缺乏系統性, 全面性的關的觀點來評估旅遊推廣策略. 本研究以背包客實際旅遊行程之記錄, 探究景點之間的網絡關係. 本研究之結果不但可提供與過去有別的系統化觀點, 也可供政府單位在規劃觀光政策時, 有更全面的評估角度.

SOCIAL NETWORK ANALYSIS IN TROUISM INDUSTRY

旅遊是人們到訪居住地點之外的景點, 是對特定景點的消費. 長時間的旅遊, 除了考量景點本身的特質, 吸引力等等, 更會考量景點跟景點之間的關係. 景點之間除了距離遠近的考量之外, 景點空間位置的關係也非常重要. 尤其是自助旅行者在規劃行程時候, 必定會考量到訪景點之間的路順, 景點之間的特質是否重複或互補, 不同景點適合到訪的時間等因素. 例如, 旅客如果參觀了 float market 之後, 就比較不會參觀另一個性質類似的 float market.

事實上, 旅遊本來就是旅客在空間上位的移動, 許多旅客是對照著地圖來做行程規劃, 單單思考景點的特質, 景點的吸引力, 設備等等, 而忽略地理上, 文化上的關係, 是非常常見的缺失. 因此, 近年來許多旅遊相關研究紛紛從圖論的觀點, 利用社群網絡分析的技巧, 討論景點跟景點之間潛在不為人知的關係. 所謂社會網絡分析 (social network analysis) 係指社會個體成員之間因為互動而形成相對穩定的關係體系, 可以用於連結總體與個體層次的分析. 其所關注的是人們之間的互動和聯繫, 社會互動會影響人們的社會行為, 由一個或多個特定類型的相互依存, 如價值觀, 理想, 觀念, 金融交流, 友誼, 血緣關係, 衝突或貿易等等. 一個社會網絡體系有三個基本要素, 分別為由行動者(Actors), 關係(Relationship)與連結(Ties)所組成. 其中, 行動者為網絡中最基本的要素, 可以是人, 事物, 組織, 地點等. 二個行動者會因不同的關係產生不一樣的互

動方式, 常見的關係型態有情感關係, 交易關係, 溝通關係, 親屬和血統關係, 權威和權力關係及合夥關係等. 當行動者之間建立關係時, 須透過路徑(Path)來讓行動者建立直接或間接的關係. 當關係愈緊密時, 表示兩者之間的連結愈密切.

比較常見的社會網絡分析衡量值包括: degree, density, clique, closeness centrality, betweenness centrality and clustering coefficient.本研究旨在了解景點之特質, 適合以 degreecentrality 與 betweenness centrality 指標做說明.

**Research Method**

本研究採社會網路分析, 探討背包客來台行程之間的關係. 以下針對資料收集與分析方式略做說明:

資料收集:

本研究搜尋大陸旅客來台自由行之行程記錄. 首先在大陸最大的旅遊搜尋網—攜程網中, 根據熱門的情況選出最熱門的 40 旅遊貼文. 其次, 整理博客文章格式, 並逐一檢視每一篇博客文章, 由研究者手動將背包客的行程記錄串連起來, 利用 excel 表格整理成依起迄景點對應的關係網絡, 並針對個別景點查詢其經緯度. 由於博客文章詳細程度不一, 有的文章對景點的描述非常詳細, 甚至小至一間麵店或購買伴手禮的商店, 有的則很粗略, 大到只提到縣市. 因此, 在整併資料時非常困難. 本研究最後依背包客在景點之間移動是否需要使用交通工具為準則, 若所搜集之景點關係是走路就可以到的景點, 則整併成同一個景點.

在整理完景點資料之後, 將資料匯入 Gephi 及 NodeXL 軟體進行分析. Gephi 程式有非常完善的圖形呈現效果, NodeXL 軟體則與 Excel 程式相容, 並在執行地理區域的畫圖時, 效率較高.

Results

下圖是大陸自由行旅行足跡分佈圖. 線條緊密情形表示旅客在各別景點之間移動的關係, 粗細則表示旅客走訪該路線的次數. 從本圖可以發現, 陸客自由行到訪的行程非常多樣,從北到南, 從 Kinmen 到 Lanyu, 平地到 Jade Mt.都是陸客到訪的景點. 大體而言, 仍然陸客到訪地區仍以北部為最主, 其餘地方則有幾個特別景點常常有陸客來訪. 由於本圖太過密集, 不易看出核心的景點, 因此, 本研究根據向外中心程度指標調整線條顯示的條件.
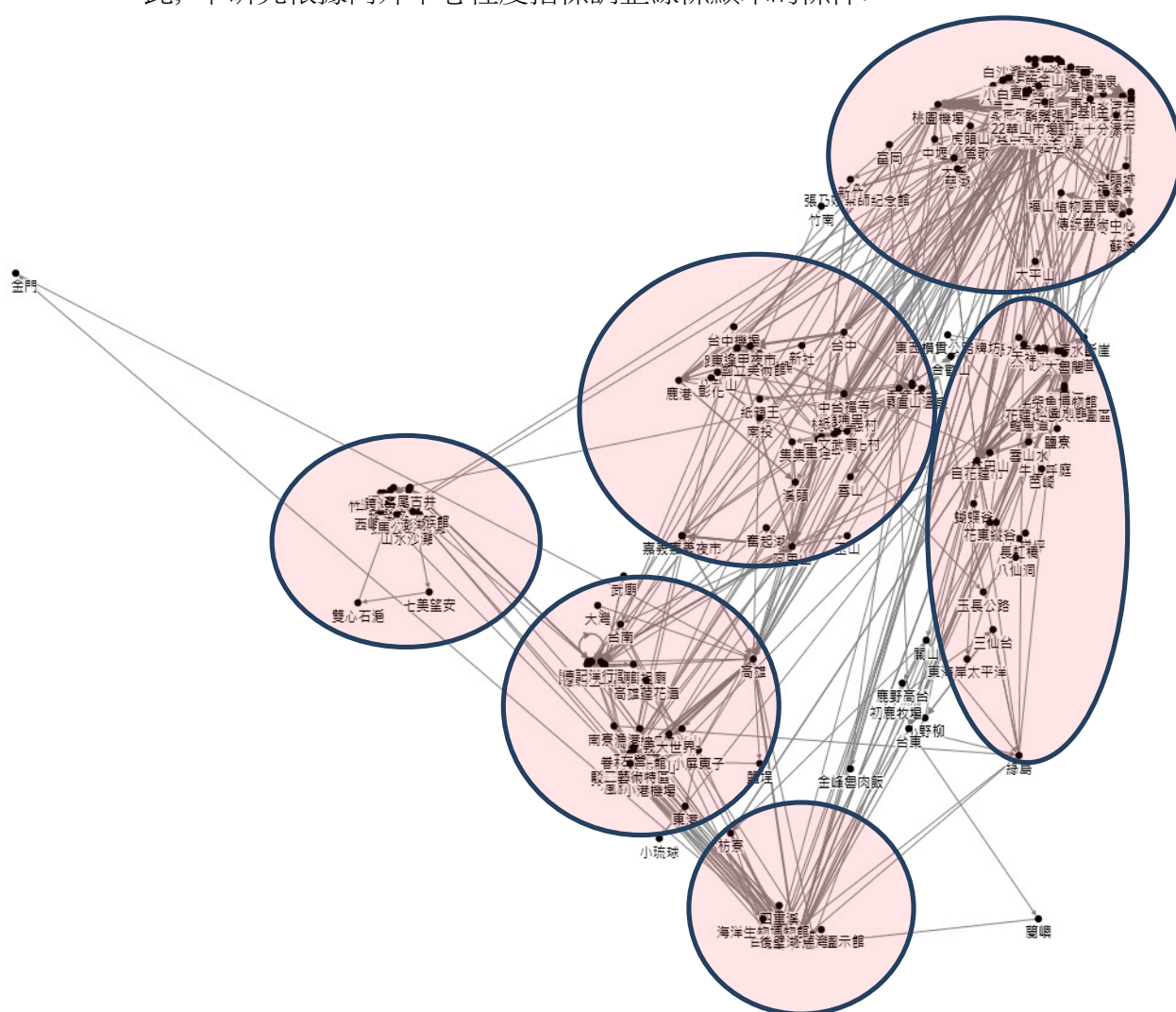

如下圖所示, 根據向外程度中心性指標修正結果, 北部仍非常密集, 包含 Tamsui, Beitou, Shilin, Pingsi, Jiufen, and Elite Book Store, 皆是陸客常常到訪的景點. 中部 Lukang, Taichung, Sun Moon Lake, and Chingjing Farm 非常熱門; 南部 Anping, Qijing, National

Museum of Marine Biology and Aquarium, and Kenting 都是重要旅遊景點; 東部 Green Island, Hualien Tzechiang Night Market, Qihsing Pond, and Taroko, 也常常可以見到陸客身影.
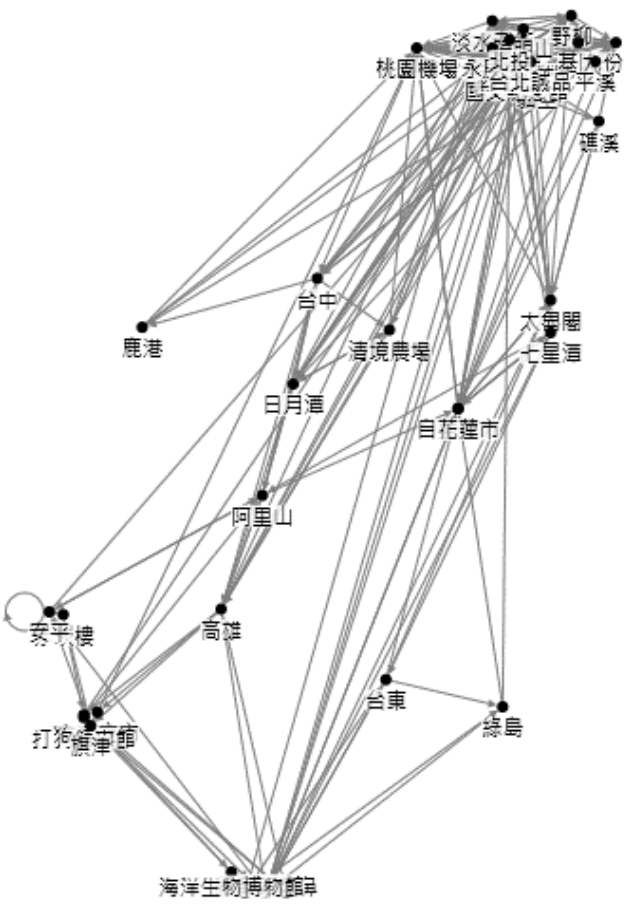

上圖仍然有很多景點重疊, 因此, 本研究另外以 Fruchterman-Reingold 圖式法, 並以手動拉開重疊之處, 呈現如下圖. 本圖可以看出部份景點, 如 Tamshui, Simenting, National Palace Museum, Chiang Kai-shek Memorial Hall, and Taipei 101 等地區的聯結非常密集.
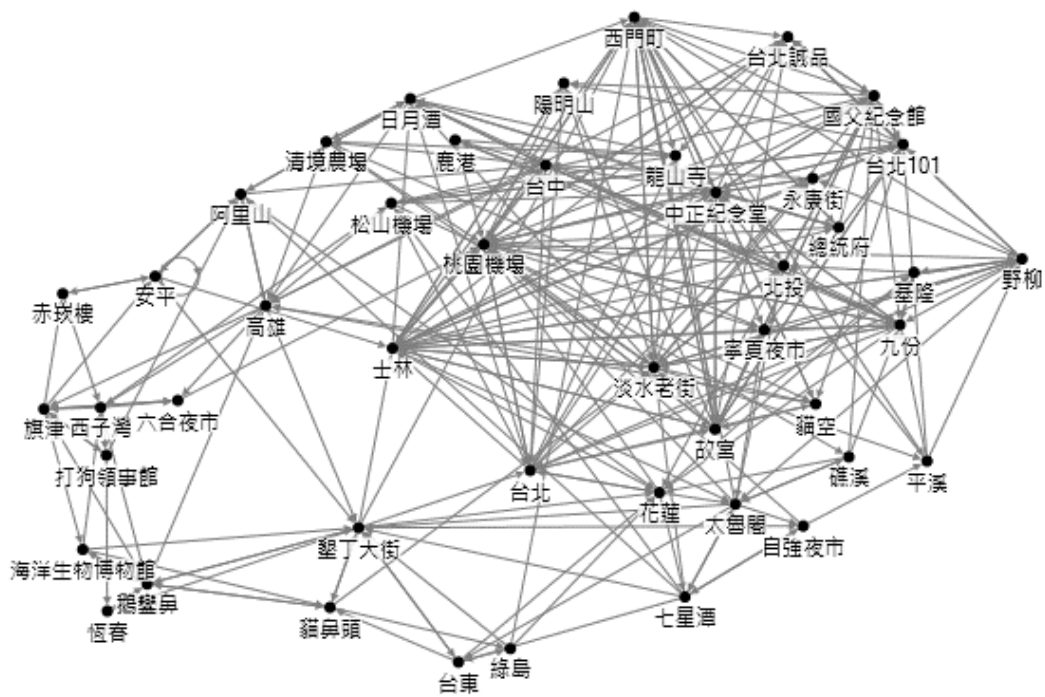
1. 旅行社行程

旅行社部份，從 Taichung->Sun Moon Lake->Chingjing Farm or Chiayi->Alishan->Tainan 等路線是常見的行程安排. Penghu, 南部的 Kenting, 東部 Hualien and Taitung 等地自成一線, 旅遊行程會拉的比較遠.

台北

台中

清境農場

日月潭

花蓮

吉貝

馬公

嘉義　阿里山

台南

高雄

台東

墾丁
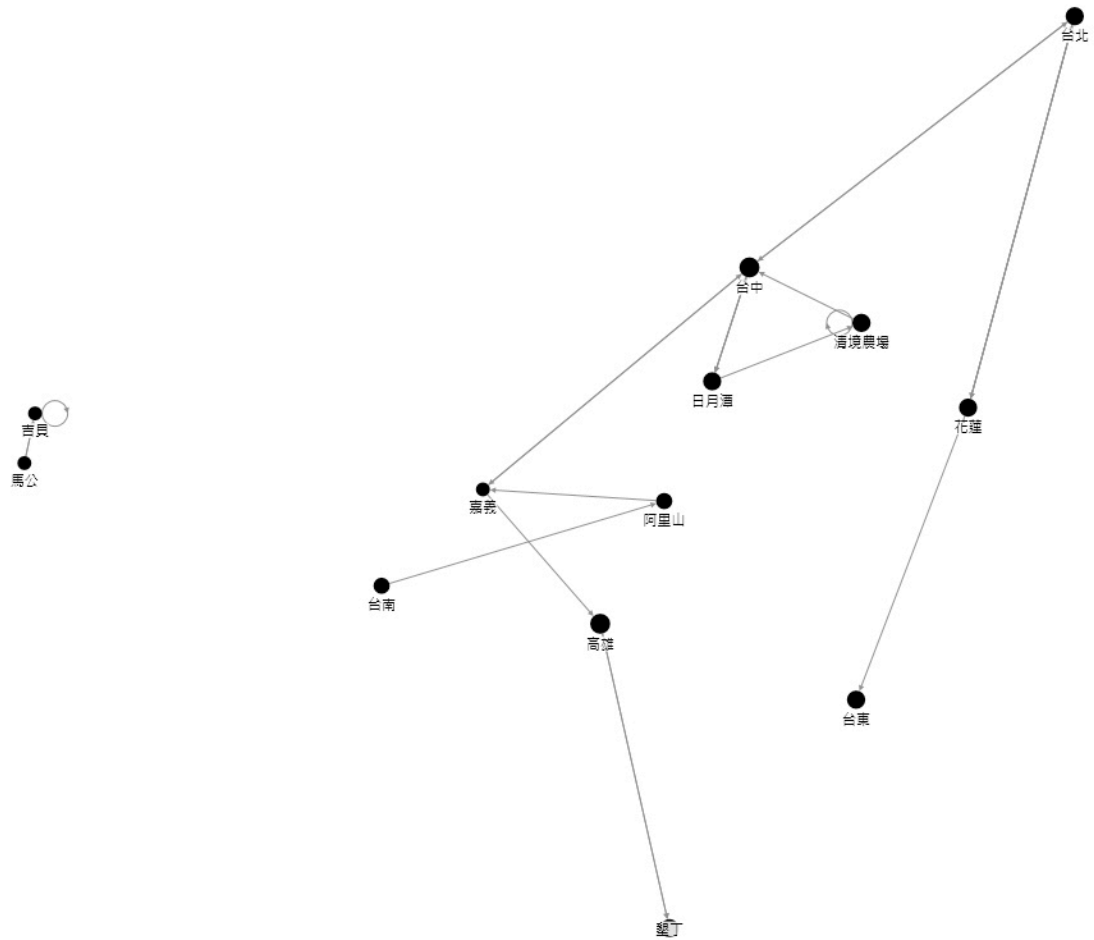
2. 綜合比較分析

本研究比較三個指標, 包含向內程度中心性(In-Degree), 向外程度中心性(Out-Degree)及中介中心性 (betweenness centrality). 其中, 向內程度中心性表示有多少次旅客由其他景點連入此景點, 向外程度中心性則正好相反, 表示由此景點出發到其他景點的次數.

Table 1 不同景點在背包客行程與套裝行程之間的差異. 從表中看出, 背包客的行程規劃比套裝行程細緻很多, 其中 Tamsui Lao St., Simenting, National Palace Museum, and Shilin 是背包客拜訪頻繁的景點. 套裝行程則大多以地區呈現, 比較特別標明的景點則包含 Kenting, Sun Moon Lake, Chingjing Farm, and Alishan.

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Table 1 (In-Degree)

Ranks	Backpacker	Package tour
1	Tamsui Lao St.	Kaohsiung, Taichung
2	Kaohsiung, Simenting, National Palace Museum	Taipei, Kenting, Hualian, Taitung, Sun-Moon Lake Chingjing Farm
3	Shilin, Sun-Moon Lake	Mt. Ali, Tainan
4	KentingSt.	Chiai, Magong, Jibei
5	Hualian, Chiang Kai-shek Memorial Hall	His-tzu-wan, Chi Mei Museum, ChikuYanshan, Checheng, Puli Brewery, Anping, Hehuanshan Taroko, Hengchuen, Wangan, Erkan Ancient Residences, Tsou Cultural Residences, Sea Cross Bridge, Tongliang Great Banyan, Chimei, Wangan Island, Cising Pond

向外程度中心性表示由景點出發到其他景點的次數. 表中發現背包客常以 Tamsui, Shilin, Jiufen, Simenting, and Sun Moon Lake 等地為出發點, 前往其他景點參觀. 套裝行程則從 Sun Moon Lake and Chingjing Farm 出發較多.

Table 2 向外程度中心性(Out-Degree)

Ranks	Backpacker	Package tour
1	Tamsui Lao St.	Sun-Moon Lake
2	Shilin, Jiufen	Taipei, Kenting, Hualian, Chingjing Farm
3	Simenting, Sun-Moon Lake	Kaohsiung, Taichung
4	KentingSt., Taipei	Taitung
5	National Palace, Anping Harbor	Mt. Ali, Tainan

中介中間性表示景點具有中繼站特質的景點. 對背包客而言, Kenting, Taroko, and Kaohsiung 都是非常重要的中介景點. 對套裝行程而言, Kaohsiung, Taipei, Kenting, and Hualien 具有中介景點的特質.

Table 3 中介中間性 (BetweennessCentrality)

Ranks	Backpacker	Package tour
1	Kenting St.	Kaohsiung
2	Taroko	Taipei
3	Kaohsiung	Kenting
4	Tamsui Lao St.	Hualian

5	Hualian	Chiai
6	Taipei	Taitung
7	Shilin	Sun-Moon Lake
8	Anping	Taichung
9	Mt. Ali	Fangliao
10	Kenting St.	Kaohsiung

Conclusion

本研究採社會網路分析探討旅遊景點之間的關係, 藉由觀察背包客實際行走的路線, 審視景點之間可能存在的網路連結關係. 針對有起點性質的景點, 宜加強旅遊資訊的提供, 針對有終點特質的景點, 則應加強住宿服務. 若景點的中介中心性較高, 則具有轉運點的特質, 交通運輸規劃是關注的重點.

本研究雖然收集大量部落客資料, 但因為不同文章中對景點的描述清形不一, 有點細至餐飲小吃, 有的僅指明所到的縣市. 因此, 在資料整併上有其困難, 所得之結果可能因資料分組不同, 而有誤差. 本研究在整併資料時已經儘量詳盡的列出所有位置, 但考量旅遊景點規劃的單位, 實不宜將特殊景點 (如伴手禮商店, 緊鄰在旁的景點) 劃分為不同景點, 故最後以背包客是否需要搭乘交通工具往返景點做為判斷標準, 若需要接駁才能到達則適為不同景點. 未來研究者或可利用不同的景點單位重新驗證本研究之結果.

DESTINATION IMAGE OF TAIWAN IN THE VIEW OF CHINESE TRAVEL BLOGS

INTRODUCTION

Since Taiwan was opened to tourists from Mainland China, these tourists have become the major foreign tourists to visit Taiwan since 2007. Such strength of growth only slightly slowed down after 2010. To effectively increase the number of tourists in Taiwan, the Taiwanese government in June 2011 agreed that Mainland Chinese tourists could enter and visit Taiwan as individuals, which created another craze of Mainland Chinese tourists traveling to Taiwan. According to the data gathered in 2012, Mainland Chinese tourists accounted for 36.65 percent of the total tourists in Taiwan. Backpackers are the new power for the growth of inbound tourism in Taiwan.
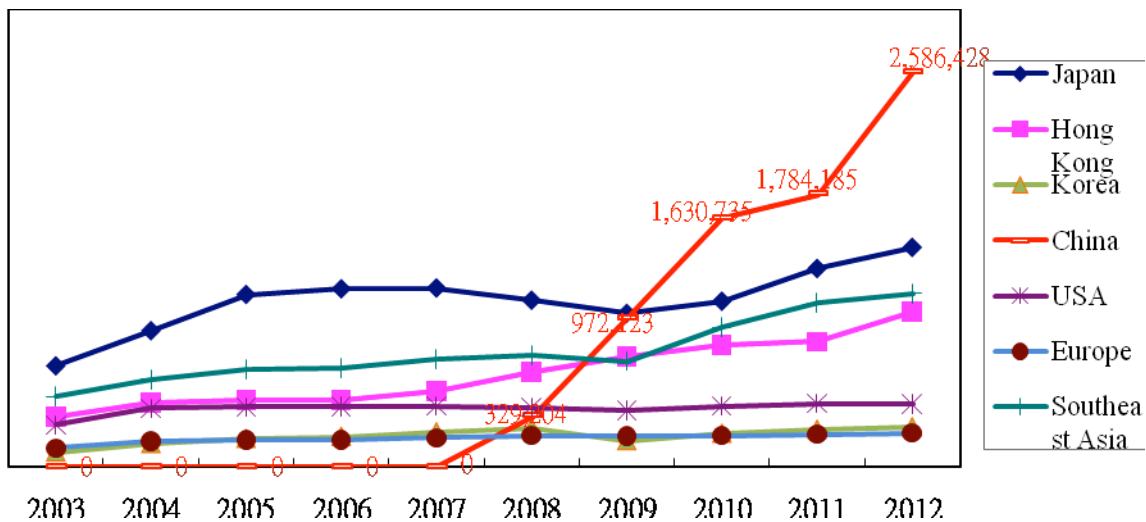

Figure 1Inbound visitor statistics

The previous studies on travel preference were mostly qualitative or quantitative surveys on personal preference, opinion, or cognition and image of the tourist attractions. Such research, through understanding tourists' reviews on the current status of tourist attractions, can further offer many suggestions for improvement. Nevertheless, from the angle of planning an itinerary, tourists also consider the relationship of tourist attractions, which include but are not limited to traits, distance, connecting transports, and visiting time of the tourist attractions, in addition to the traveler's personal interests and the tourist attractions' allure. This is especially true for individual travelers, who often spend a great amount of time in assessing the relationship between the tourist attractions and going through a few rounds of weighing and balancing before deciding on the final travel plan.

This study used the social network analysis method to understand the competitive, compensating, or interchanging relationship of different tourist attractions through collecting

information from travel blogs written by individual Mainland Chinese tourists, and observing these tourists' visiting sequence to different tourist attractions. As tourist attractions were frequently seen as individual objects in the previous studies on tourist attractions, there was no systematic and comprehensive perspective to evaluate the tourism promotion strategy. The study, on the contrary, aims to explore the network connection between different tourist attractions through backpackers' actual travel blogs. The study result can not only offer a systematic perspective which is different from the past, but also a more comprehensive assessing perspective to the government organizations in tourism policy drafts.

SOCIAL NETWORK ANALYSIS IN TROUISM INDUSTRY

Travel is a human behavior associated with visiting places outside a residential place. It is also a consumption behavior in certain places. The relationship between tourist attractions is also a factor that a traveler considers, in addition to the traits and charm of an individual tourist attraction. Moreover, the geographical relationship of tourist attractions is also very important, in addition to the distance between these attractions. When planning an itinerary, backpackers especially consider factors of whether the tourist attractions are geographically adjacent, whether their features are repeated or complementary, and the ideal visiting time of different tourist attractions. For example, after visiting a float market, a tourist is less likely to visit another float market with similar features.

Travel is essentially the spatial movement of passengers. A frequently observed mistake made by many tourists who simply follow a map to plan their itinerary is that they only consider the features, charm, and facilities of a tourist attraction, while neglecting the geographical and cultural aspects. Consequently, many tourism-related studies in recent years all discuss about the unknown relationship of different tourist attractions from a diagram perspective and through social work analysis.

Social network analysis is an analysis which is based on the assumption that the relatively stable relationship that the individual members in the society have formed through interaction is associated with the individual or the group. The focus is on people's interaction and connection, the influence of social interaction on people's social behaviors, the interdependency of social members through one or multiple modes such as value, ideal, thought, financial exchange, kinship, conflict, or trade. The three basic elements of a social network are actor, relationship, and tie. Actors, as the most essential element of the social network, could be people, matters or objects, organizations, places, etc. Two actors may have different interactions due to different relationships. The common relationships are emotional relationship, trade relationship, communication relationship, kinship and blood relationships, authority and power relationship, and partnership. When forming relationships, actors have to form direct or indirect relationships through paths. The closer the relationship is, the more frequent the connection between the two actors is.

The more commonly used measures in social network analysis include: degree, density, clique, closeness centrality, betweenness centrality, and clustering coefficient. The study aims

to understand the attributes of tourist attractions, which can be illustrated with the two measures: "degreecentrality" and "betweenness centrality".

Research Method:
The study used social network analysis to explore the relationship between the backpackers' itineraries in Taiwan. A brief description of the data collection and analysis method is as follows:

Data Collection:
The study searched for the travel blogs of Mainland Chinese tourists who travelled to Taiwan as individuals. First of all, the most popular 40 travel blogs, based on their popularity, were selected from the biggest travel search engine in China – CTRP (www.ctrp.com). Second, the researcher arranged the format of each travel blog, scrutinized the contents, manually connected the backpackers' travel records, used an Excel table to come up with a relationship network with the matching starting and ending tourist attractions, and found out the longitude and latitude of each tourist attraction. It was very difficult to collate the collected information as each blog article was different in the level of detail. Some articles were very detailed in depicting the attraction, for example, details on a small noodle shop or a souvenir shop; whereas some others were so brief that only the names of the cities or counties were mentioned. The study finally settled on the guideline regarding whether the backpackers had to use transport to move to another tourist attraction. The collected tourist attractions were consolidated to be one tourist attraction if they were within walking distance.

The arranged tourist attraction data were then entered into Gephi and NodeXL software for analysis. Gephi has very excellent graphic rendering effect while the NodeXL software is compatible with the Excel program and is more efficient in drawing geographical areas.

Results
The following diagram is the travel footprint map of the individual Mainland Chinese tourists. The closeness of the lines represents the tourists' movement between different tourist attractions. The thickness of the lines represents how many times the tourists travelled along the routes. It can be observed from the diagram that individual Mainland Chinese tourists have various itineraries, which range from the north to the south, Kinmen to Lanyu, and from the plains to the Jade Mountain. All of these are where the Mainland Chinese tourists have been. Generally speaking, the northern part of Taiwan is still the main area where the Mainland Chinese tourists went to. Other areas also have a few special tourist attractions that frequently attracted Mainland Chinese tourists to come over. It is difficult to tell the core tourist attractions on the diagram due to the packed lines on it. Therefore, the study has adjusted the condition of showing the lines based on the "out-degree of centrality".
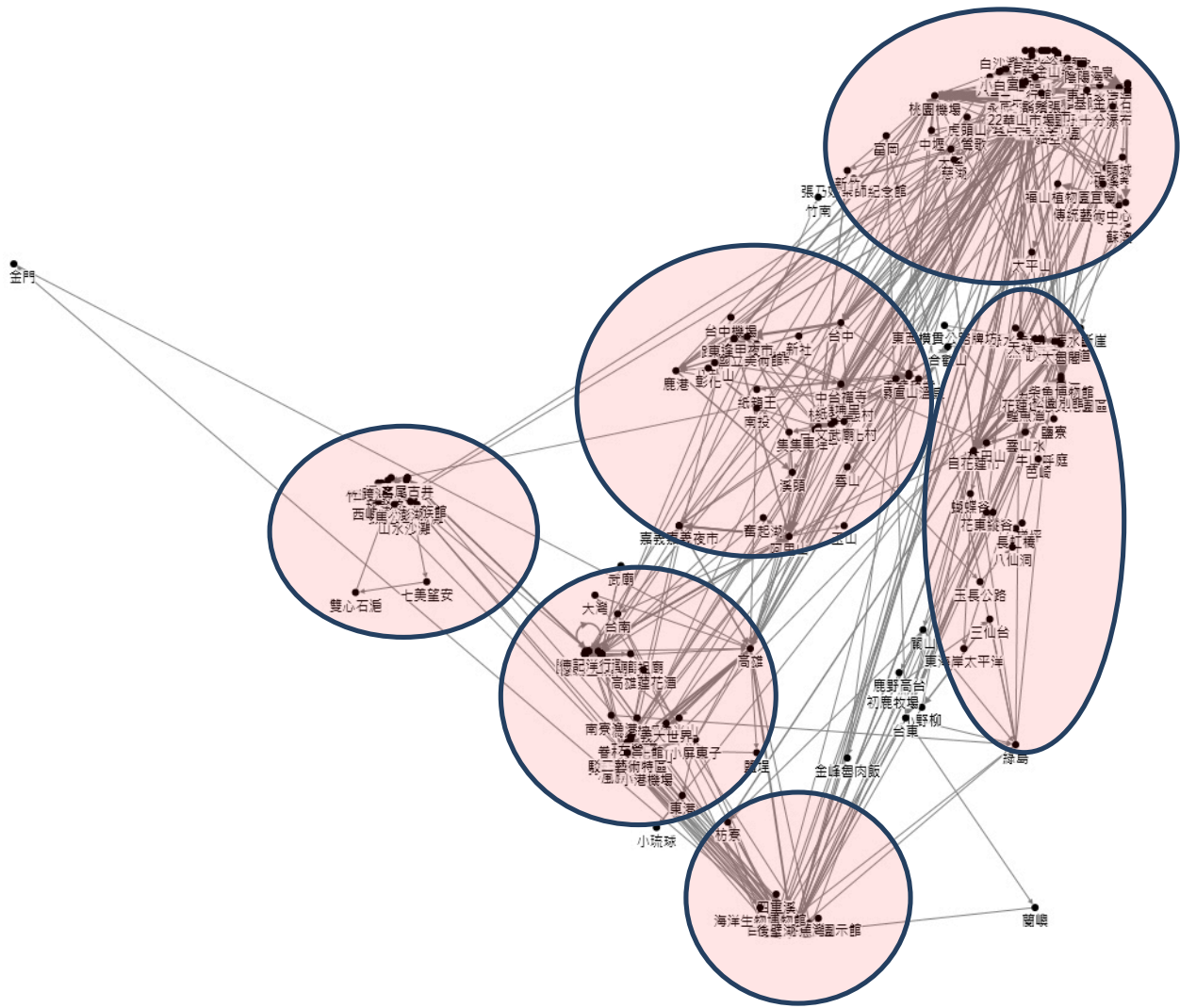
As shown below, the adjusted result based on the "out-degree of centrality" indicates that the lines on the northern part are still very packed. Tamsui, Beitou, Shilin, Pingsi, Jiufen, and Elite Book Store are all tourist attractions that the Mainland Chinese tourists frequently went to. Lukang, Taichung, Sun Mon Lake, and Chingjing Farm in the middle part of Taiwan are also very popular. Anping, Qijing, National Museum of Marine Biology and Aquarium, and Kenting in the southern part of Taiwan are all important tourist attractions. As for the eastern side of Taiwan, the sight of Mainland Chinese tourists is also frequently seen in Green Island, Hualien Tzechiang Night Market, Qihsing Pond, and Taroko.

Because many tourist attractions on the above graphic still overlap, the study further used the Fruchterman-Reingold algorithm and manually removed the overlapping areas to produce the following diagram. As shown on this diagram, the connection between some tourist attractions such as Tamshui, Simenting, National Palace Museum, Chiang Kai-shek Memorial Hall, and Taipei 101 are very intensive.
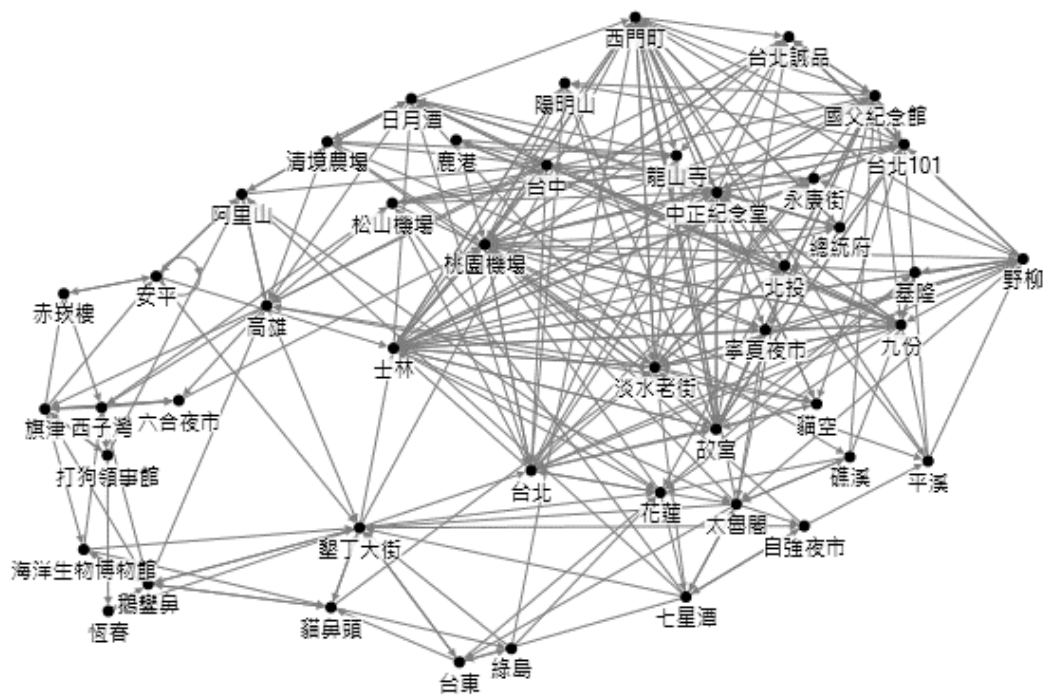
1. Travel agency itinerary

As for itineraries arranged by travel agencies, routes such as Taichung->Sun Moon Lake->Chingjing Farm or Chiayi->Alishan->Tainan are frequently seen. Penghu, Kenting in the South, and Hualien and Taitung in the East are different from other tourist attractions. Itineraries including any of these tourist attractions involve travelling a longer distance.

2. Comprehensive Comparative Analysis

The study compared three measures: "in-degree of centrality", "out-degree of centrality", and "betweenness centrality". "In-degree of centrality" denotes how many times the tourists came to the tourist attractions from other attractions. "Out-degree of centrality", on the contrary, indicates how many times the tourists travelled to other tourist attractions from this attraction.

Table 1: The different tourist attractions between backpacker itineraries and package tour itineraries

As indicated by the diagram, backpacker itineraries are much more exquisite than packaged tour itineraries. Attractions such as Tamsui Lao St., Simenting, National Palace Museum, and Shilin, are where backpackers frequently went to. On the contrary, the majority of package tour itineraries only show the districts, with only a small number of specially noted tourist attractions such as Kenting, Sun Moon Lake, Chingjing Farm, and Alishan.

Table 1 In-Degree of Centrality

Ranks	Backpacker	Package tour

1	Tamsui Lao St.	Kaohsiung, Taichung
2	Kaohsiung, Simenting, National Palace Museum	Taipei, Kenting, Hualian, Taitung, Sun-Moon Lake Chingjing Farm
3	Shilin, Sun-Moon Lake	Mt. Ali, Tainan
4	KentingSt.	Chiai, Magong, Jibei
5	Hualian, Chiang Kai-shek Memorial Hall	His-tzu-wan, Chi Mei Museum, ChikuYanshan, Checheng, Puli Brewery, Anping, Hehuanshan Taroko, Hengchuen, Wangan, Erkan Ancient Residences, Tsou Cultural Residences, Sea Cross Bridge, Tongliang Great Banyan, Chimei, Wangan Island, Cising Pond

"Out-degree of centrality", indicates how many times tourists went to other tourist attractions from this attraction. It is found that backpackers usually travelled to other tourist attractions with places such as Tamsui, Shilin, Jiufen, Simenting, and Sun Moon Lake as the starting points. Most starting points in the packaged tours are Sun Moon Lake and Chingjing Farm.

Table 2 Out-Degree of Centrality

Ranks	Backpacker	Package tour
1	Tamsui Lao St.	Sun-Moon Lake
2	Shilin, Jiufen	Taipei, Kenting, Hualian, Chingjing Farm
3	Simenting, Sun-Moon Lake	Kaohsiung, Taichung
4	KentingSt., Taipei	Taitung
5	National Palace, Anping Harbor	Mt. Ali, Tainan

"Betweenness centrality" means a tourist attraction has an interchanging attribute. Kenting, Taroko, and Kaohsiung are all very important interchanging tourist attractions for backpackers. In comparison, Kaohsiung, Taipei, Kenting, and Hualien are tourist attractions with interchanging attributes for the packaged tours.

Table 3   Betweenness Centrality

Ranks	Backpacker	Package tour
1	Kenting St.	Kaohsiung
2	Taroko	Taipei
3	Kaohsiung	Kenting
4	Tamsui Lao St.	Hualian
5	Hualian	Chiai
6	Taipei	Taitung
7	Shilin	Sun-Moon Lake

8	Anping	Taichung
9	Mt. Ali	Fangliao
10	Kenting St.	Kaohsiung

Conclusion:

The study investigated the relationship between tourist attractions through social network analysis, and examined the possible existing network relationship between tourist attractions through observing the routes that were actually taken by the backpackers. Provision of travel information can be improved in the tourist attractions with the starting-point attribute. Better accommodation service can be provided for the tourist attractions with the ending-point attribute. As for tourist attractions with a higher degree of betweenness centrality and thus interchanging attributes, attention should be given to the transportation planning.

Although the study has collected a large amount of data from the blog authors, collating the data was difficult and the result might be different due to different data categorization, which was a result of the different level of detail in the depiction of tourist attractions in different blog articles. Some of these articles were as specific as to a particular restaurant or snack, while some simply mentioned the counties or cities visited. While collating the data, the study attempted to list all sites as thoroughly as possible, but there was consideration that it was inappropriate to list those particular tourist attractions (such as a souvenir shop or an adjacent tourist attraction) as different attractions. Eventually, whether the backpackers had to take public transport to another tourist attraction was used as a guideline. A tourist attraction that needed transport to get to was seen as a different tourist attraction. Researchers in the future probably can use a different tourist attraction division unit to re-verify the result of this study.